ABSTRACT OF THE DISCLOSURE

An organic light-emitting diode (OLED) display having addressable pixels on a substrate, the pixels having performance attributes, and a control circuit for controlling the pixels of the display device, includes one or more OLED pixels; an OLED reference pixel located on a substrate and connected to the control circuit, the OLED reference pixel having the same performance attributes as the one or more OLED pixels, the OLED reference pixel having a voltage sensing circuit including a transistor connected to one of the terminals of the OLED reference pixel for sensing the voltage across the OLED reference pixel to produce a voltage signal representing the voltage across the OLED reference pixel; a measurement circuit connected to the voltage signal to produce an output signal representative of the performance attributes of the OLED reference pixel; an analysis circuit connected to the measurement circuit to receive the output signal, compare the performance attributes with predetermined performance attributes, and produce a feedback signal in response thereto; and the control circuit being responsive to the feedback signal to compensate for changes in the output of the OLED pixels.